

II. Listing of the Claims

This listing of claims will replace all prior versions, and listings, of claims in this application.

1. (Currently Amended) An apparatus for installing a vertebral implant assembly, having a tubular body and a pair of endplate assemblies, between two vertebral endplates, the apparatus comprising:

an axle having a proximal end, ~~[[and]]~~ a distal end, and an axle axis;

a set of gears connected to the proximal end of the axle, each gear of the set of gears having a plurality of circumferentially spaced gear teeth; and

an engager device comprising a plurality of circumferentially spaced engager teeth and being connected to at least one gear of the set of gears~~and adapted,~~ the plurality of circumferentially spaced engager teeth extending further in the distal direction of the axle axis than the plurality of gear teeth such that only the plurality of circumferentially spaced engager teeth engage the tubular body to rotate the tubular body when the axle is rotated,

wherein the engager device comprises a positioning mechanism including a pair of movable arc portions having substantially smooth opposing side surfaces adapted to at least partially surround and slidably engage the tubular body as the tubular body is rotated within the surrounding arc portions by the engager device.

2. (Original) The apparatus of claim 1 further comprising

an outer casing and

a handle section connected to the distal end of the axle,

wherein the axle extends through the outer casing and at least partially into the handle.

3. (Original) The apparatus of claim 2 wherein the handle section is fixedly connected to the axle.

4. (Original) The apparatus of claim 2 wherein the handle section rotationally engages the outer casing.

5. (Original) The apparatus of claim 2 wherein the handle section comprises a first portion fixed to the outer casing and a second portion adapted to rotate the axle.

6. (Original) The apparatus of claim 2 further comprising a plurality of gears selectively engaged with the axle.

7. (Original) The apparatus of claim 6 further comprising a cap member movable about the handle section, wherein the cap member is adapted to select one or more of the plurality of gears to engage the axle.

8. (Currently Amended) The apparatus of claim 1 wherein the ~~engager device comprises a toothed section~~ circumferentially spaced engager teeth are configured to engage apertures on the vertebral implant assembly.

9-10. (Cancelled)

11. (Original) The apparatus of claim 8 wherein the set of gears comprises
a secondary gear assembly attached to the axle and
a gear section attached to the toothed section,
wherein the secondary gear assembly engages the gear section for translating rotation of the axle into rotation of the toothed section.

12. (Original) The apparatus of claim 1 further comprising:

an outer casing through which the axle extends, and
a holding instrument attached to the endplate assemblies of the vertebral implant assembly and further attached to the outer casing.

13. (Previously Presented) The apparatus of claim 12 wherein the holding instrument further comprises:

a pair of parallel alignment arms for the attachment to the endplate assemblies;
an attachment device for the attachment to the outer casing;
one or more expansion members extending between the attachment device and each alignment arm; and
an alignment member extending between the alignment arms for maintaining the parallel alignment of the alignment arms as the vertebral implant assembly expands.

14 - 22. (Cancelled)

23. (Previously Presented) The instrument of claim 28 wherein rotation of the axle further causes the tubular body to move linearly relative to the pair of endplates along an axis defined by the vertebral column.

24. (Previously Presented) The instrument of claim 28 wherein the rotation of the axle causes relative motion along a threaded connection between the tubular body and the pair of endplates.

25 - 26. (Cancelled)

27. (Previously Presented) The instrument of claim 28 further comprising an outer casing through which the axle extends and a holding instrument movably connected to the outer casing and adapted for removable connection to the pair of endplates.

28. (Currently Amended) An instrument for installing a vertebral implant within a vertebral column, the instrument comprising:

an axle defining a first axis and having a proximal end and a distal end, the axle adapted to rotate about the first axis;

a first gear connected to the axle and adapted to rotate about the first axis, the first gear including a plurality of circumferentially spaced first gear teeth;

a second gear engaged with the first gear and adapted to rotate about a second axis generally perpendicular to the first axis, the second gear including a plurality of circumferentially spaced second gear teeth;

a toothed section fixedly attached to and coaxially aligned with the second gear for conjoint rotation therewith about the second axis, the toothed section including a plurality of circumferentially spaced engagement teeth,

wherein the plurality of circumferentially spaced engagement teeth extend radially outwardly from the second axis further than the plurality of circumferentially spaced second gear teeth such that only the circumferentially spaced engagement teeth are configured to be received in side wall openings in a tubular body portion of the vertebral implant bounded between a pair of endplates, and

wherein rotation of the axle is operative, via rotation of the circumferentially spaced teeth received in the tubular body portion side wall openings, to rotate the tubular body portion relative to the pair of endplates.

29. (Currently Amended) An apparatus for installing a vertebral implant assembly, having a tubular body with side wall openings therein and a pair of end plate assemblies between two vertebral endplates, the apparatus comprising:

an axle having a proximal end, [[and]] a distal end, and an axle axis;

a set of gears connected to the proximal end of the axle, each set of gears of the set of gears comprising a plurality of circumferentially spaced gear teeth; and

an engager device separate from the set of gears and fixedly secured to one of the gears for conjoint rotation therewith, the engager device having a circumferentially spaced plurality of

generally cog-shaped projections extending further in the distal direction of the axle axis than the circumferentially spaced gear teeth of the set of gears such that only the cog-shaped projections are configured for receipt in the tubular body side wall openings so that rotation of the axle, via the set of gears, drivingly rotates the tubular body relative to the end plate assemblies.